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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,912	12/06/2004	Hitoshi Horiuchi	DK-US045259	8718
22919 7590 10/30/2007 GLOBAL IP COUNSELORS, LLP 1233 20TH STREET, NW, SUITE 700 WASHINGTON, DC 20036-2680			EXAMINER HAMO, PATRICK	
			ART UNIT 3746	PAPER NUMBER
			MAIL DATE 10/30/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/516,912

Applicant(s)

HORIUCHI ET AL.

Examiner

Patrick Hamo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This action is in response to amendments filed on August 22, 2007.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama 5,199,854 in view of Norton, 5,228,289.

Aoyama discloses a pumping system with two pumps of fixed displacement, the displacement of a first pump Q1 larger than that of the second pump Q2, discharge lines 38a and 38b connected to the first and second pumps, respectively, an engine 36 driving both pumps, switch valves 42 and 43 used to selectively dump the discharge from the first and second pumps, connecting the discharge lines when neither is dumping and disconnecting the discharge lines when either one of two is dumping, a pressure control valve that inherently detects a pressure arranged upstream of the pumps, which detects the pressure of only the second discharge line when the first switch valve is commanded to dump the discharge of the first pump (see figure 9), and a discharge control valve circuit 50 that controls the switch valves 42 and 43 in a variety of modes as shown in figure 9, including a mode (a) in which the first discharge line is

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being dumped and the first pump is unloaded, and another mode (b) in which both discharge lines are connected to each other, the discharge control valve circuit 50 responding to a rotational speed sensor 56 mounted on the drive shaft 36A of engine 36. The discharge control valve circuit and the pressure control valve work in concert to determine the mode of operation of the two-pump system (col. 10, l. 12—col. 12, l. 31), together forming a unitary control device. At low pressure and low rotational speed of the motor, the pumps are disconnected into one of the modes represented by either figure 9(a) or figure 9(c), and at high pressure and high rotational speed of the motor, to the mode represented by figure 9(b). Furthermore, the control means includes an input for the amount of fluid required to be supplied from the pumps, which is inherently a function of the rotational speed, and the discharge pressure, this input used to determine the operation mode of the pump system (col. 4, l. 18—col. 5, l. 2).

Aoyama does not disclose a control device configured to control a variable-speed motor.

However, Norton teaches a plural pump system with a valve element that controls motor energization in a continuously varying manner (col. 2, ll. 59-67) so that the pump system can operate efficiently at both high and low volume operation (Abstract, ll. 1-3).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the system of Aoyama with the motor control of Norton in order to operate efficiently under various operating conditions.

***Response to Arguments***

Applicant's arguments filed August 22, 2007 have been fully considered but they are not persuasive.

In response to applicant's argument that combining the control means of Norton with the vehicle engine of Aayoma would not be obvious to one skilled in the art and would render the vehicle inoperable, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In the present case, Norton teaches a valve element controlling the motor, or engine in combination with Aayoma, in a continuously variable manner to operate efficiently in a number of modes, as noted above.

Applicant also argues that the hydraulic system resulting from the combination of Aayoma and Norton would not result in a control means of Norton arranged to receive a signal from the pressure control unit 12 of Aayoma. However, this is not necessary for the combination to meet all the claimed limitations. Applicant claims "a control device arranged to receive a signal from the pressure sensor... the control device being configured to control the switching valve and the variable-speed motor." In the combination, the control valve circuit 50 and the control valve element of Norton are construed to form the control unit of the combined references, and may act as a single control device. In this event, the combination meets the claimed limitations without it

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being necessary for the control means of Norton to receive a signal from the pressure control unit 12 of Aayoma as the control valve circuit 50 of Aayoma already does.

In response to applicant's argument that the pressure control valve 12 is not arranged to detect a pressure of the second passage 38b, examiner would like to point out that, as claimed, the pressure sensor is arranged to detect "a pressure of the second discharge line". The control valve 12 detects the pressure of the combined discharges of lines 38a and 38b, 38b corresponding to the second line. Because the pressure is the sum of the two pressures, the pressure control valve does detect a pressure of the second discharge line, in addition to a pressure of the first discharge line.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

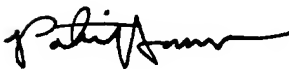
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Hamo whose telephone number is 571-272-3492. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



PH

Devon Kramer  
Supervisory Patent Examiner  
Art Unit 3746

DEVON C. KRAMER  
PATENT EXAMINER

*Devon Kramer*  
10/26/07